at1124exam: Radicals and Squares (v830)

Question 1

Simplify the radical expressions.

$$\sqrt{12} \qquad\qquad \sqrt{75} \qquad\qquad \sqrt{18}$$

Question 2

Find all solutions to the equation below:

$$2\left((x+5)^2 + 9\right) \;=\; 90$$

Question 3

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 12x \ = \ -27$$

Question 4

A quadratic polynomial function is shown below in standard form.

$$y \ = \ 3x^2 - 24x + 40$$

Express the function in **vertex form** and identify the **location** of the vertex.